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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,061	04/15/2004	Wallace Robinson Mason III	200308759-1	7208
22879 7590 06/06/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER TAN, ALVIN H	
			ART UNIT 2173	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/825,061	Applicant(s) MASON, WALLACE ROBINSON	
	Examiner Alvin H. Tan	Art Unit 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/15/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. Claims 1-20 have been examined and rejected. This is the first Office action on the merits.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference characters 134 and 136 in *[figure 1]*.
3. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Claim 20 recites the limitation "the system" in *[line 1]* of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1, 2, 5, and 6 are rejected under 35 U.S.C. 101 because data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized.

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8. Claims 19 and 20 are rejected under 35 U.S.C. 101 because claim 19 is not limited to tangible embodiments. In view of Applicant's disclosure, specification [page 12, paragraph 48], the medium is not limited to tangible embodiments, instead being defined as including intangible embodiments (e.g., [propagation medium]). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

To overcome this type of 101 rejection the claims need to be amended to include only the physical computer media and not a transmission media or other intangible or non-functional media.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 2, 5, 14, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Becker (Pub. No. US 2002/0149617 A1).

Claims 1, 2, 5

10-1. Regarding claim 1, Becker teaches the claim comprising generating a first video signal, a first audio signal and a first haptic signal at a first location, generating a second video signal, a second audio signal and a second haptic signal at a second location,

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communicating the first video signal, the first audio signal and the first haptic signal to the second location, and communicating the second video signal, the second audio signal and the second haptic signal to the first location, by disclosing remote collaboration between various persons and groups wherein the collaboration utilizes computer-generated information and graphics displays with other high-resolution video sources, in a real-time mode *[paragraph 2]*. As shown in *[figure 1]*, signals are sent from a local site to a remote site and vice versa *[paragraph 221]*. The remote collaboration includes the transmission of audio and visual signals *[paragraphs 197-205]* as well as haptic signals *[paragraph 86]*.

10-2. Regarding claim 2, Becker teaches the claim wherein communicating to the first location is concurrently performed with communicating to the second location *[paragraph 221]*.

10-3. Regarding claim 5, Becker teaches the claim further comprising the steps of integrating the first video signal, the first audio signal, and the first haptic signal into a first integrated signal, integrating the second video signal, the second audio signal, and the second haptic signal into a second integrated signal, and concurrently communicating the first integrated signal to the second location and communicating the second integrated signal to the first location, by disclosing that the audio, video, and haptic signals may be sent to and from the remote computer using an ATM computer

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network switch or through Ethernet and TCP/IP *[figures 4-D, 4-E, 4-F, 4-G, 5-B]*.

Communication between computers is done in real-time *[paragraph 21]*.

Claims 14, 15

10-4. Regarding claim 14, Becker teaches the claim comprising a first conferencing signal originating at a first location, the first conferencing signal comprising an audio portion corresponding to sound detected by an audio detection device at the first location, by disclosing remote collaboration between various persons and groups wherein the collaboration utilizes computer-generated information and graphics displays with other high-resolution video sources, in a real-time mode *[paragraph 2]*. A microphone for capturing sounds at a local site is provided *[paragraph 203]*.

Becker teaches a video portion corresponding to a video generated by a first camera at the first location, by disclosing cameras allow users to see each other as they work with the computer imagery *[paragraphs 198-200]*.

Becker teaches a haptic portion corresponding to a haptic signal generated by a haptic device at the first location, by disclosing sending haptic signals from one location to another over an Internet connection *[paragraph 86]*.

Becker teaches a second conferencing signal originating at a second location, the second conferencing signal comprising a second audio portion corresponding to other sounds detected by a second audio detection device at the second location, by disclosing a microphone for capturing sounds at the remote site *[paragraph 204]*.

Becker teaches a second video portion corresponding to a second video generated by a second camera at the second location, by disclosing that a remote site can also allow users to capture a video and present it on display of a local site *[paragraph 201]*.

Becker teaches a second haptic portion corresponding to a second haptic signal generated by a second haptic device at the second location, by disclosing sending haptic signals from one location to another over an Internet connection *[paragraph 86]*.

Becker teaches a communication system configured to communicate the first conferencing signal to the second location and configured to communicate the second conferencing signal to the first location, by disclosing that the audio, video, and haptic signals may be sent to and from the remote computer using an ATM computer network switch or through Ethernet and TCP/IP *[figures 4-D, 4-E, 4-F, 4-G, 5-B]*. Communication between computers is done in real-time *[paragraph 21]*.

10-5. Regarding claim 15, Becker teaches the claim wherein the communication system comprises at least one of an internet system, a telephony system, a radio frequency (RF) wireless system, a microwave communication system, a fiber optics system, an intranet system, a local access network (LAN) system, an Ethernet system, a cable system, a radio frequency system, a cellular system, an infrared system, and a satellite system, by disclosing that the audio, video, and haptic signals may be sent to and from the remote computer using an ATM computer network switch or through Ethernet and TCP/IP *[figures 4-D, 4-E, 4-F, 4-G, 5-B]*.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3, 4, 6-13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker (Pub. No. US 2002/0149617 A1) and Shrader (U.S. Patent No. 6,639,582 B1).

Claims 3, 4, 6

12-1. Regarding claims 3 and 4, Becker teaches the invention substantially as claimed. See section 10-1. Becker further teaches the claim further comprising generating an audible sound at the first and second location, the audible sound at the first location corresponding to the second audio signal and the audible sound at the second location corresponding to the first audio signal and displaying a video at the first and second location, the video at the first location corresponding to the second video signal and the video at the second location corresponding to the first video signal, by disclosing broadcasting audio [paragraph 203] and video [paragraphs 200, 201]. This allows collaborators to see and talk with each other as they work with the computer imagery [paragraph 198].

Although Becker teaches generating and communicating a haptic signal between computers *[paragraph 86]*, Becker does not expressly teach reproducing a haptic image at the first and second location, the haptic image at the first location corresponding to the second haptic signal and the haptic signal at the second location corresponding to the first haptic signal. Shrader teaches an interactive computer controlled system for communicating haptic sensory-motor effects between network connected input/output devices *[column 1, lines 11-14]*. Feedback of a resultant or combined haptic sensory-motor effect is sent back to a remote terminal and then visa-versa from the remote terminal back to a local terminal *[column 2, lines 20-36]*. This allows human-computer interfaces to become more friendly and comfortable to users *[column 1, lines 40-52]*. Since Becker teaches providing a collaboration environment that enables rich interaction to allow natural collaborative behaviors to occur across shared remote spaces, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the collaborative environment, sending and receiving feedback from haptic sensory-motor effects at two or more networked remote locations as taught by Shrader. This would allow for richer interactions among users within the collaborative environment.

12-2. Regarding claim 6, Becker teaches the invention substantially as claimed. See section 10-3. Although Becker teaches generating and communicating a haptic signal between computers *[paragraph 86]*, Becker does not expressly teach generating an integrated haptic signal from the first integrated signal and the second integrated signal,

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reproducing an integrated haptic image corresponding to the integrated haptic signal at the first location, and concurrently reproducing the integrated haptic image at the second location. Shrader teaches an interactive computer controlled system for communicating haptic sensory-motor effects between network connected input/output devices [*column 1, lines 11-14*]. Feedback of a resultant or combined haptic sensory-motor effect is sent back to a remote terminal and then visa-versa from the remote terminal back to a local terminal [*column 2, lines 20-36*]. The feedback to produce concurrent resultant sensory-motor affects at least two remote terminals through the combination of the haptic inputs at each terminal [*column 4, lines 41-50*]. This allows human-computer interfaces to become more friendly and comfortable to users [*column 1, lines 40-52*]. Since Becker teaches providing a collaboration environment that enables rich interaction to allow natural collaborative behaviors to occur across shared remote spaces, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the collaborative environment, sending and receiving feedback from haptic sensory-motor effects at two or more networked remote locations as taught by Shrader. This would allow for richer interactions among users within the collaborative environment.

Claims 7-13

12-3. Regarding claim 7, Becker teaches the claim comprising a video camera at a first location configured to capture video and communicate the video to a second location and a display at the second location configured to receive and display the

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communicated video, by disclosing remote collaboration between various persons and groups wherein the collaboration utilizes computer-generated information and graphics displays with other high-resolution video sources, in a real-time mode *[paragraph 2]*.

Cameras allow users to see each other as they work with the computer imagery *[paragraphs 198-202]*.

Becker teaches an audio input device at the first location configured to capture audio and communicate the captured audio to the second location and an audio output device at the second location configured to receive and reproduce the communicated audio, by disclosing a microphone for capturing sounds at a local site and speakers for outputting the captured sounds at a remote site *[paragraphs 203-205]*.

Becker teaches a first haptic device at the first location configured to generate a haptic signal to communicate the haptic signal to the second location, by disclosing sending haptic signals from one location to another over an Internet connection *[paragraph 86]*.

Becker does not expressly teach a second haptic device at the second location configured to receive the haptic signal and produce a haptic image corresponding to the communicated haptic signal. Shrader teaches an interactive computer controlled system for communicating haptic sensory-motor effects between network connected input/output devices *[column 1, lines 11-14]*. Feedback of a resultant or combined haptic sensory-motor effect is sent back to a remote terminal and then visa-versa from the remote terminal back to a local terminal *[column 2, lines 20-36]*. This allows human-computer interfaces to become more friendly and comfortable to users *[column 1, lines*

40-52]. Since Becker teaches providing a collaboration environment that enables rich interaction to allow natural collaborative behaviors to occur across shared remote spaces, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the collaborative environment, sending and receiving feedback from haptic sensory-motor effects at two or more networked remote locations as taught by Shrader. This would allow for richer interactions among users within the collaborative environment.

12-4. Regarding claims 8-11, Becker and Shrader teach the claim wherein the first haptic device is further configured to detect a force exerted by an object, wherein the communicated haptic signal corresponds to the detected object and wherein the second haptic device is configured to detect a second force exerted by a second object, wherein the communicated haptic signal corresponds to integration of the detected forces, by disclosing a touchboard or touchpad of a matrix of rods which are movable within a substrate or board by touch via a finger or hand as shown in [Shrader, figures 3-5]. The finger or hand is used to physically input the haptic forces while the haptic forces or effects transmitted or feedback from the other haptic terminal are applied via the computer controlling the respective touchboard through an individual small motor associated with each rod in the touchboard matrix [Shrader, column 4, lines 12-50].

12-5. Regarding claim 12, Becker and Shrader teach the claim further comprising a processor configured to integrate the communicated video, audio, and haptic signal into

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an integrated signal that is communicated to the second location, by disclosing that the audio, video, and haptic signals may be sent to and from the remote computer using an ATM computer network switch or through Ethernet and TCP/IP [Becker, figures 4-D, 4-E, 4-F, 4-G, 5-B]. Communication between computers is done in real-time [Becker, paragraph 21]. There inherently must be a processor in order to communicate the signal to the second location.

12-6. Regarding claim 13, Becker and Shrader teach the claim further comprising a second video camera at the second location configured to capture a second video and communicate the second video to the first location and a second display at the first location configured to receive and display the second video, by disclosing that a remote site can also allow users to capture a video and present it on display of a local site [Becker, paragraph 201].

Becker and Shrader teach a second audio input device at the second location configured to detect a second audio and communicate the detected second audio to the first location and a second audio output device at the first location configured to receive and reproduce the communicated second audio, by disclosing a microphone for capturing sounds at the remote site and speakers for outputting the captured sounds at the local site [Becker, paragraph 204].

Claims 16-18

12-7. Regarding claim 16, Becker teaches the claim comprising means for communicating a first conferencing signal to a first location, the first conferencing signal comprising a first video signal, a first audio signal, and a first haptic signal each generated at a second location and means for communicating a second conferencing signal to the second location, the second conferencing signal comprising a second video signal, a second audio signal and a second haptic signal each generated at the first location, by disclosing remote collaboration between various persons and groups wherein the collaboration utilizes computer-generated information and graphics displays with other high-resolution video sources, in a real-time mode *[paragraph 2]*. As shown in *[figure 1]*, signals are sent from a local site to a remote site and vice versa *[paragraph 221]*. The remote collaboration includes the transmission of audio and visual signals *[paragraphs 197-205]* as well as haptic signals *[paragraph 86]*. The audio, video, and haptic signals may be sent to and from a remote computer using an ATM computer network switch or through Ethernet and TCP/IP *[figures 4-D, 4-E, 4-F, 4-G, 5-B]*. Communication between computers is done in real-time *[Becker, paragraph 21]*.

Becker teaches means for displaying the first video signal and the second video signal, by disclosing video monitors to display the video signals *[paragraphs 200, 201]*.

Becker teaches means for reproducing the first audio signal and the second audio signal, by disclosing speakers for reproducing the audio signals *[paragraphs 203, 204]*.

Although Becker teaches generating and communicating a haptic signal between computers *[paragraph 86]*, Becker does not expressly teach means for

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reproducing the first haptic signal and the second haptic signal. Shrader teaches an interactive computer controlled system for communicating haptic sensory-motor effects between network connected input/output devices *[column 1, lines 11-14]*. Feedback of a resultant or combined haptic sensory-motor effect is sent back to a remote terminal and then visa-versa from the remote terminal back to a local terminal *[column 2, lines 20-36]*. This allows human-computer interfaces to become more friendly and comfortable to users *[column 1, lines 40-52]*. Since Becker teaches providing a collaboration environment that enables rich interaction to allow natural collaborative behaviors to occur across shared remote spaces, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the collaborative environment, sending and receiving feedback from haptic sensory-motor effects at two or more networked remote locations as taught by Shrader. This would allow for richer interactions among users within the collaborative environment.

12-8. Regarding claim 17, Becker and Shrader teach the claim further comprising means for receiving a second communication signal at the second location, the second communication signal comprising a second video signal, a second audio signal, and a second haptic signal each generated at the first location, by disclosing that the audio, video, and haptic signals may be sent to and from a remote computer using an ATM computer network switch or through Ethernet and TCP/IP *[Becker, figures 4-D, 4-E, 4-F, 4-G, 5-B]*. Communication between computers is done in real-time *[Becker, paragraph 21]*.

Becker and Shrader teach means for displaying the second video signal as a second video, by disclosing video monitors to display the video signals [*Becker, paragraphs 200, 201*].

Becker and Shrader teach means for reproducing the second audio signal as a second audible sound, by disclosing speakers for reproducing the audio signals [*Becker, paragraphs 203, 204*].

Becker and Shrader teach means for reproducing the second haptic signal as a second haptic image, by disclosing that feedback of a resultant or combined haptic sensory-motor effect is sent back to a remote terminal and then visa-versa from the remote terminal back to a local terminal [*Shrader, column 2, lines 20-36*].

12-9. Regarding claim 18, Becker and Shrader teach the claim further comprising means for integrating the first haptic signal and the second haptic signal into an integrated haptic signal, means for reproducing an integrated haptic image corresponding to the integrated haptic signal at the first location, and means for concurrently reproducing the integrated haptic image at the second location, by disclosing a touchboard or touchpad of a matrix of rods which are movable within a substrate or board by touch via a finger or hand as shown in [*Shrader, figures 3-5*]. The finger or hand is used to physically input the haptic forces while the haptic forces or effects transmitted or feedback from the other haptic terminal are applied via the computer controlling the respective touchboard through an individual small motor associated with each rod in the touchboard matrix [*Shrader, column 4, lines 12-40*]. The

feedback to produce concurrent resultant sensory-motor affects at least two remote terminals through the combination of the haptic inputs at each terminal [*Shrader, column 4, lines 41-50*].

Claims 19, 20

12-10. Regarding claim 19, Becker teaches the claim comprising logic configured to communicate a first conferencing signal to a first location, the first conferencing signal comprising a first video signal, a first audio signal, and a first haptic signal each generated at a second location and logic configured to communicate a second conferencing signal to the second location, the second conferencing signal comprising a second video signal, a second audio signal, and a second haptic signal each generated at the first location, by disclosing remote collaboration between various persons and groups wherein the collaboration utilizes computer-generated information and graphics displays with other high-resolution video sources, in a real-time mode [*paragraph 2*]. As shown in [*figure 1*], signals are sent from a local site to a remote site and vice versa [*paragraph 221*]. The remote collaboration includes the transmission of audio and visual signals [*paragraphs 197-205*] as well as haptic signals [*paragraph 86*]. The audio, video, and haptic signals may be sent to and from a remote computer using an ATM computer network switch or through Ethernet and TCP/IP [*figures 4-D, 4-E, 4-F, 4-G, 5-B*]. Communication between computers is done in real-time [*Becker, paragraph 21*].

Although Becker teaches generating and communicating a haptic signal between computers [*paragraph 86*], Becker does not expressly teach logic configured to

integrate the first haptic signal and the second haptic signal into an integrated haptic signal and logic configured to reproduce an integrated haptic image corresponding to the integrated haptic signal at the first location and the second location. Shrader teaches an interactive computer controlled system for communicating haptic sensory-motor effects between network connected input/output devices *[column 1, lines 11-14]*. Feedback of a resultant or combined haptic sensory-motor effect is sent back to a remote terminal and then visa-versa from the remote terminal back to a local terminal *[column 2, lines 20-36]*. The feedback to produce concurrent resultant sensory-motor affects at least two remote terminals through the combination of the haptic inputs at each terminal *[column 4, lines 41-50]*. This allows human-computer interfaces to become more friendly and comfortable to users *[column 1, lines 40-52]*. Since Becker teaches providing a collaboration environment that enables rich interaction to allow natural collaborative behaviors to occur across shared remote spaces, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the collaborative environment, sending and receiving feedback from haptic sensory-motor effects at two or more networked remote locations as taught by Shrader. This would allow for richer interactions among users within the collaborative environment.

12-11. Regarding claim 20, Becker and Shrader teach the claim further comprising logic configured to integrate a force detected by a first haptic device that generates the first haptic signal into the integrated haptic signal and logic configured to integrate another

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force detected by a second haptic device that generates the second haptic signal into the integrated haptic signal, by disclosing a touchboard or touchpad of a matrix of rods which are movable within a substrate or board by touch via a finger or hand as shown in [Shrader, figures 3-5]. The finger or hand is used to physically input the haptic forces while the haptic forces or effects transmitted or feedback from the other haptic terminal are applied via the computer controlling the respective touchboard through an individual small motor associated with each rod in the touchboard matrix [Shrader, column 4, lines 12-50].

Conclusion

13. The prior art made of record on attached form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R § 111(c) to consider these references fully when responding to this action. The documents cited therein teach similar systems for haptic based conferencing.

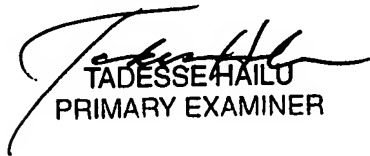
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin H. Tan whose telephone number is 571-272-8595. The examiner can normally be reached on Mon-Fri 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on 571-272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AHT
Assistant Examiner
Art Unit 2173


TADESSE HAILU
PRIMARY EXAMINER